Vermont Department of Public Safety

Breath and Blood Alcohol Analysis Rule

A. Scope and Authority

I. In accordance with 23 V.S.A. Section 1203, the following are stated as requirements for performing and reporting results of breath and blood alcohol analyses.

B. Definitions

I. As used in this rule:

1. "Alcohol" refers specifically to ethyl alcohol.

2. "Analysis" refers to the physical identification and quantification of alcohol within breath or blood samples.

3. "Method" refers to an analytical technique for performing chemical analyses. A method may require specific analytical instrumentation.

4. "Procedure" refers to the series of steps followed in the performance of analyses.

II. Severability

If any provision of any section of this rule or the application thereof to any firm, individual or circumstance is found by a court of competent jurisdiction to be illegal, invalid or void, the remainder of this rule shall be deemed unaffected and shall continue in full force and effect.

~~C. Methods for Alcohol Analysis~~

C. Evidential Breath Alcohol Analysis

I. Analyses shall be performed using the methods which work by the principle of absorption of ~~gas chromatography~~ ~~or~~ infrared ~~spectrophotometry~~ energy. At the time of use the equipment for this purpose must appear on the most current National Highway Traffic Safety Administration (NHTSA) conforming products list for evidential breath testing equipment. ~~In using either method~~ The following specifications must be met:

1. ~~Sampling equipment~~ Analytical instrumentation shall be capable of accepting and analyzing ~~collecting~~ a sample of ~~expired alveolar~~ exhaled deep lung/alveolar air (breath). ~~When such sample is collected using a crimper device, it shall be stable for at least sixty (60) days and shall be of sufficient quantity as to make available a portion for independent analysis~~.

2. Analytical instrumentation shall be capable of analyzing replicate samples of simulated breath containing a known ~~amount~~ concentration of alcohol with a precision of plus or minus 5% from their mean when alcohol concentrations are reported to three significant figures. Analytical results shall be reported as the number of grams of alcohol per 210 liters of breath (g/210L).

3. Analytical instrumentation shall be capable of determining the ~~blood or~~ breath alcohol concentration of ~~the person sampled~~ a simulated breath sample of a known concentration with an accuracy of plus or minus 10% or 0.005 g/210L, whichever is greater, when alcohol concentrations are reported to three significant figures. ~~The calculation of an equivalent blood alcohol concentration from the result of a breath alcohol analysis shall be based on a blood to breath alcohol concentration ratio of 2100:1.~~ This demonstrated capability directly extends to accurately evaluating a breath sample. Analytical results shall be reported as the number of grams of alcohol per 210 liters of breath (g/210L).

4. ~~The~~ Analytical instrumentation shall be capable of ~~determining~~ detecting the ~~breath alcohol concentration of the person sampled within plus or minus 10% where the~~ presence of compounds in breath which could potentially interfere with the accurate determination of breath alcohol concentration. ~~is expressed as weight percent alcohol per 210 liters of expired air.~~

5. ~~The~~ Analytical instrumentation ~~shall be capable of detecting the presence of potentially interfering compounds which may be present in breath and which may otherwise interfere with accurate determination of an equivalent blood or~~ and ~~procedures~~ methods used for determination of breath alcohol concentration for evidential purposes shall be approved by the Commissioner of Public Safety.

6. ~~The analytical~~ Instrumentation ~~and procedures used for analysis of breath alcohol content for evidentiary purposes shall be approved by the Commissioner of Health.~~ meeting the above described specifications is considered to be capable of accurately analyzing a breath sample for alcohol concentration.

II The operator will follow procedures incorporated in the Vermont Criminal Justice Training Council Student Manuals in effect at the time of testing and approved by the Commissioner of Public Safety.

D. Evidential Blood Alcohol Analysis

I. Analyses shall be performed using the method of gas chromatography. The following specifications must be met:

1. ~~Samples shall be submitted in such a way as to provide two containers containing at least 5 ml of blood each.~~ Collection of blood samples designated for evidential analysis require the use of blood collection kits provided by the

Vermont Department of ~~Health~~ Public Safety or use of tubes appropriate for blood alcohol analysis. The sample ~~containers~~ tubes shall include a suitable preservative which will render the alcohol concentration of the sample stable for at least sixty (60) days. ~~The sample container shall provide a means to ensure sample security and shall be acceptable to the Vermont Department of Health Laboratory Director.~~

2. Upon collection, shipping containers used for the submission of evidentiary samples shall be sealed and should be properly labeled with date and time of collection and donor identification. Sample container seals shall be tamper-evident.

3. When in the custody of law enforcement personnel, sample containers and packaging shall remain sealed and be kept in a secured area, until they are sent or delivered to the Vermont ~~Department of Health~~Forensic Laboratory where they shall be held in a limited access, secured storage area. Sample tubes shall remain sealed until they are opened by an analyst.

4. Analytical instrumentation shall be capable of analyzing ~~duplicate~~ replicate portions of a blood sample with a precision of plus or minus 5% from their mean when alcohol concentrations are reported to three significant figures. Analytical results shall be reported as the number of grams of alcohol per 100 milliliters of blood (g/100mL).

5. ~~The~~ Analytical instrumentation shall be capable of determining the alcohol concentration of a reference sample of known concentration with an accuracy of plus or minus 10% when alcohol concentrations are reported to three significant figures. Analytical results shall be reported as the number of grams of alcohol per 100 milliliters of blood (g/100mL).

6. Analytical instrumentation ~~and analytical procedures shall be approved by the Commissioner of Health and~~ shall be capable of detecting the presence of ~~potentially interfering~~ compounds ~~which may be present~~ in blood ~~and~~ which ~~may otherwise~~ could potentially interfere with accurate determination of blood alcohol concentration.

7. Analytical instrumentation and ~~analytical procedures~~ methods used for ~~the~~ determination of blood alcohol concentration for evidential purposes shall be approved by the Commissioner of ~~Health~~Public Safety.

8. Instrumentation meeting the above described specifications ~~are~~ is considered to be capable of accurately analyzing a blood sample for alcohol concentration.

E. Preliminary Breath Alcohol Screening

~~I.~~ Any preliminary alcohol screening device used by law enforcement officers in enforcing the provisions of Title 23 of the Vermont Statutes Annotated must appear on the most current NHTSA conforming products list for evidential breath testing

equipment. All such instruments must be operated, maintained, and used in accordance with manufacturer specifications and instructions. ~~Devices used for this purpose must appear on the most current NHTSA conforming product list for evidential breath testing equipment.~~

~~H.~~I. ~~Any preliminary alcohol screening device used by law enforcement officers in enforcing the provisions of Title 23 of the Vermont Statutes Annotated must conform to the National Highway Traffic Safety Administration (NHTSA) Model Specifications for Evidential Breath Testing Devices. [The latest specifications appear at 58 Federal Register 48705-48710.] The device used must be on the most recently published NHTSA Conforming Products List for instruments that meet such model specifications. [The latest list appears at 61 Federal Register 3078-3081.] All such instruments must be operated, maintained, and used in accordance with manufacturer specifications, recommendations, and instructions.~~

~~D. Collection and Security of Samples~~

~~I. Evidentiary Samples~~

~~1. Upon collection, shipping containers used for the submission of evidentiary samples of breath or blood must be sealed and properly identified with, at minimum, the name of the tested subject and the date and time of collection. All seals shall be tamper-resistant. Samples shall be sent or delivered to the Vermont Department of Health Laboratory in a sealed condition, where, upon receipt, they shall be held in a limited access, secured storage area. Samples shall remain sealed until such time that they are opened by an analyst.~~

~~When in the custody of law enforcement personnel, all samples shall be kept in a secure area, until such time as they are sent or delivered to the Vermont Department of Health Laboratory.~~

~~2.~~

F. Samples for Independent Analysis

I. Collection of blood samples designated for independent analysis ~~only~~ require the use of blood collection kits provided by the Vermont Department of ~~Health~~ Public Safety or use of ~~kits~~ tubes appropriate for blood ~~glucose~~ alcohol analysis. Samples must be labeled with donor, date and time taken. The sample must be sealed by the individual taking the sample and the seals must remain intact. These samples must be sent to the Vermont ~~Department of Health~~Forensic Laboratory for storage until independent analysis is requested or the required storage time has been exceeded., ~~unless they are to be analyzed at the facility in which they are drawn.~~

II. All samples for independent analysis shall be securely held by the Vermont ~~Department of Health~~Forensic Laboratory for at least 45 days from the documented date of sample collection. The Vermont ~~Department of Health~~Forensic Laboratory, upon receipt of a written request from the tested subject or his/her attorney and payment of the handling fee, will send the requesting subject's sample to the independent laboratory of his/her ~~choosing~~ choice. The sample will be sent to the independent laboratory in a sealed condition.

III. In cases where an Evidential Blood Sample has been collected, a portion of blood shall be retained for independent analysis for at least 45 days from the documented date of ~~receipt~~sample collection. The Vermont ~~Department of Health~~Forensic Laboratory, upon receipt of a written request from the tested subject or his/her attorney and payment of the handling fee, will send the requesting subject's sample to the independent laboratory of his/her choice. The sample will be sent to the independent laboratory in a sealed condition.

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3. "Method" refers to an analytical technique for performing chemical analyses. A method may require specific analytical instrumentation.

4. "Procedure" refers to the series of steps followed in the performance of analyses.

II. Severability

If any provision of any section of this rule or the application thereof to any firm, individual or circumstance is found by a court of competent jurisdiction to be illegal, invalid or void, the remainder of this rule shall be deemed unaffected and shall continue in full force and effect.

C. Evidential Breath Alcohol Analysis

I. Analyses shall be performed using the methods which work by the principle of absorption of infrared energy. At the time of use the equipment for this purpose must appear on the most current National Highway Traffic Safety Administration (NHTSA) conforming products list for evidential breath testing equipment. The following specifications must be met:

1. Analytical instrumentation shall be capable of accepting and analyzing a sample of exhaled deep lung/alveolar air (breath).

2. Analytical instrumentation shall be capable of analyzing replicate samples of simulated breath containing a known concentration of alcohol with a precision of plus or minus 5% from their mean when alcohol concentrations are reported to three significant figures. Analytical results shall be reported as the number of grams of alcohol per 210 liters of breath (g/210L).

3. Analytical instrumentation shall be capable of determining the breath alcohol concentration of a simulated breath sample of a known concentration with an accuracy of plus or minus 10% or 0.005 g/210L, whichever is greater, when alcohol concentrations are reported to three significant figures. This demonstrated capability directly extends to accurately evaluating a breath sample. Analytical results shall be reported as the number of grams of alcohol per 210 liters of breath (g/210L).

4. Analytical instrumentation shall be capable of detecting the presence of compounds in breath which could potentially interfere with the accurate determination of breath alcohol concentration.

5. Analytical instrumentation and methods used for determination of breath alcohol concentration for evidential purposes shall be approved by the Commissioner of Public Safety.

6. Instrumentation meeting the above described specifications is considered to be capable of accurately analyzing a breath sample for alcohol concentration.

II The operator will follow procedures incorporated in the Vermont Criminal Justice Training Council Student Manuals in effect at the time of testing and approved by the Commissioner of Public Safety.

D. Evidential Blood Alcohol Analysis

I. Analyses shall be performed using the method of gas chromatography. The following specifications must be met:

1. Collection of blood samples designated for evidential analysis require the use of blood collection kits provided by the Vermont Department of Public Safety or use of tubes appropriate for blood alcohol analysis. The sample tubes shall include a suitable preservative which will render the alcohol concentration of the sample stable for at least sixty (60) days.

2. Upon collection, shipping containers used for the submission of evidentiary samples shall be sealed and should be properly labeled with date and time of collection and donor identification. Sample container seals shall be tamper-evident.

3. When in the custody of law enforcement personnel, sample containers and packaging shall remain sealed and be kept in a secured area, until they are sent or delivered to the Vermont Forensic Laboratory where they shall be held in a limited access, secured storage area. Sample tubes shall remain sealed until they are opened by an analyst.

4. Analytical instrumentation shall be capable of analyzing replicate portions of a blood sample with a precision of plus or minus 5% from their mean when alcohol concentrations are reported to three significant figures. Analytical

results shall be reported as the number of grams of alcohol per 100 milliliters of blood (g/100mL).

5. Analytical instrumentation shall be capable of determining the alcohol concentration of a reference sample of known concentration with an accuracy of plus or minus 10% when alcohol concentrations are reported to three significant figures. Analytical results shall be reported as the number of grams of alcohol per 100 milliliters of blood (g/100mL).

6. Analytical instrumentation shall be capable of detecting the presence of compounds in blood which could potentially interfere with accurate determination of blood alcohol concentration.

7. Analytical instrumentation and methods used for determination of blood alcohol concentration for evidential purposes shall be approved by the Commissioner of Public Safety.

8. Instrumentation meeting the above described specifications is considered to be capable of accurately analyzing a blood sample for alcohol concentration.

E. Preliminary Breath Alcohol Screening

Any preliminary alcohol screening device used by law enforcement officers in enforcing the provisions of Title 23 of the Vermont Statutes Annotated must appear on the most current NHTSA conforming products list for evidential breath testing equipment. All such instruments must be operated, maintained, and used in accordance with manufacturer specifications and instructions.

F. Samples for Independent Analysis

I. Collection of blood samples designated for independent analysis require the use of blood collection kits provided by the Vermont Department of Public Safety or use of tubes appropriate for blood alcohol analysis. Samples must be labeled with donor, date and time taken. The sample must be sealed by the individual taking the sample and the seals must remain intact. These samples must be sent to the Vermont Forensic Laboratory for storage until independent analysis is requested or the required storage time has been exceeded,

II. All samples for independent analysis shall be securely held by the Vermont Forensic Laboratory for at least 45 days from the documented date of sample collection. The Vermont Forensic Laboratory, upon receipt of a written request from the tested subject or his/her attorney and payment of the handling fee, will send the requesting subject's sample to the independent laboratory of his/her choice. The sample will be sent to the independent laboratory in a sealed condition.

III. In cases where an Evidential Blood Sample has been collected, a portion of blood shall be retained for independent analysis for at least 45 days from the

documented date of sample collection. The Vermont Forensic Laboratory, upon receipt of a written request from the tested subject or his/her attorney and payment of the handling fee, will send the requesting subject's sample to the independent laboratory of his/her choice. The sample will be sent to the independent laboratory in a sealed condition.